

COC# 193

11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244 East 11115 Montgomery, Suite B, Spokane, WA 99206-4776 9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

(425) 420-9200 (509) 924-9200 (503) 906-9200

F^ \ 420-9210 924-9290 FAX 906-9210 (541) 383-9310 FAX 382-7588

# **CHAIN OF CUSTODY REPORT**

Work Order #: M107047

CLIENT: BRISTOL				,		INVO	ICE TO	):								TURN		O REQUEST in Business D	ays*
REPORT TO:	KRAN	AWE	TH	IR		BR	15	TOI	_			1	8"			Organic & Inorganic Analyses  10 7 5 4 3 2 1 <1			
ADDRESS: AMCHI	TKA, I	AK													7	STD.		um Hydrocarbon Analyses	<1
PHONE: 907-770			70	0	775	P.O. N	UMBE	R: 2	109	70			<u> </u>					3 2 1 <1	]
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PROJECT NUMBER: 2	90			200													ОТН	ER	_
SAMPLED BY: KLP/AR	RK /			No le						4						*Turnar	ound Requests	less than standard may incur Rush Ch	arges.
CLIENT SAMPLE	SAMPL	ING	20	XS								7.5				MATRIX	# OF		NCA WO
IDENTIFICATION	DATE/T	IME	DR(	BTEX W/							¥		W/4: 4	~5	16	(W, S, O)	CONT.	COMMENTS	ID
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3. OIAMA 11125L	7/23/01	1714	X	X						No. of the Party State of the S						5		0450	
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**Bend** 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 541.383.9310 fax 541.382.7588

7 December, 2001

Anne Kranawetter Bristol Environmental & Engineering 2000 W International Airport C#1 Anchorage, AK 99502-1116

RE: Amchitka

Enclosed are the results of analyses for samples received by the laboratory on 07/23/01 18:18. If you have any questions concerning this report, please feel free to contact me.

This report was recreated from a previously issued final report in order to provide an electronic copy. The final report used for these electronic copies may have been previously issued as an amended report due to client requested changes to sample names, etc. No data has changed since submission of the previously issued final, or amended, report.

Sincerely,

Stephen Wilson

**Environmental Group Leader** 

1112

Work Orders included in this report:

M107047



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Bristol Environmental & Engineering Project: Amchitka 2000 W International Airport C#1 Project Number: 21090

Reported:

10/25/01 01:11

Anchorage, AK 99502-1116 Project Manager: Anne Kranawetter

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
01AMA11T02SL	M107047-01	Soil	07/23/01 17:10	07/23/01 18:18
01AMA11T03SL	M107047-02	Soil	07/23/01 17:12	07/23/01 18:18
01AMA11T04SL	M107047-03	Soil	07/23/01 17:14	07/23/01 18:18
01AMA11T05SL	M107047-04	Soil	07/23/01 17:16	07/23/01 18:18
01AMA11T06SL	M107047-05	Soil	07/23/01 17:18	07/23/01 18:18
01AMA11T07SL	M107047-06	Soil	07/23/01 17:20	07/23/01 18:18
01AMA11T08SL	M107047-07	Soil	07/23/01 17:22	07/23/01 18:18

COC #193

North Creek Analytical - Mobile Lab



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Bristol Environmental & Engineering 2000 W International Airport C#1

Project: Amchitka Project Number: 21090

Reported:

Anchorage, AK 99502-1116

Project Manager: Anne Kranawetter

10/25/01 01:11

# Diesel Hydrocarbons (C10-C25) per AK102 North Creek Analytical - Mobile Lab

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
01AMA11T02SL (M107047-01) Soil					Sampled: 07	-	eived: 07/23/	01	
Diesel Range Organics	ND	150	mg/kg dry	1	AK 102	07/24/01	07/24/01	0107090	
Surr: 1-Chlorooctadecane	98.1 %	50-150	8 8 7		-				
Surr: Triacontane	97.7 %	50-150							
01AMA11T03SL (M107047-02) Soil					Sampled: 07	/23/01 Rece	eived: 07/23/	01	
Diesel Range Organics	399	150	mg/kg dry	1	AK 102	07/24/01	07/24/01	0107090	D-16
Surr: 1-Chlorooctadecane	91.3 %	50-150							
Surr: Triacontane	62.4 %	50-150							
01AMA11T04SL (M107047-03) Soil					Sampled: 07	/23/01 Rece	eived: 07/23/	01	
<b>Diesel Range Organics</b>	2800	150	mg/kg dry	1	AK 102	07/24/01	07/24/01	0107090	D-16
Surr: 1-Chlorooctadecane	99.2 %	50-150							
Surr: Triacontane	122 %	50-150							
01AMA11T05SL (M107047-04) Soil					Sampled: 07	/23/01 Rece	eived: 07/23/	01	
Diesel Range Organics	9580	150	mg/kg dry	1	AK 102	07/24/01	07/24/01	0107090	D-16
Surr: 1-Chlorooctadecane	82.5 %	50-150							
Surr: Triacontane	75.6 %	50-150							
01AMA11T06SL (M107047-05) Soil					Sampled: 07	/23/01 Rece	eived: 07/23/	01	
Diesel Range Organics	ND	150	mg/kg dry	1	AK 102	07/24/01	07/24/01	0107090	
Surr: 1-Chlorooctadecane	96.5 %	50-150							
Surr: Triacontane	100 %	50-150							
01AMA11T07SL (M107047-06) Soil					Sampled: 07	/23/01 Rece	eived: 07/23/	01	
Diesel Range Organics	8610	150	mg/kg dry	1	AK 102	07/24/01	07/24/01	0107090	D-16
Surr: 1-Chlorooctadecane	83.8 %	50-150							
Surr: Triacontane	77.1 %	50-150							

North Creek Analytical - Mobile Lab



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Bristol Environmental & Engineering Project: Amchitka 2000 W International Airport C#1 Project Number: 21090

Project Number: 21090 **Reported:**Project Manager: Anne Kranawetter 10/25/01 01:11

## BTEX,MTBE and Naphthalene per EPA Method 8021B North Creek Analytical - Mobile Lab

Analyte	Result	Reporting Limit	Units	Dilution	n Method	Prepared	Analyzed	Batch	Notes
Analyte	Result	Lillit	Ollits	Dirution	Wiethod	Trepared	Anaryzeu	Daten	Tioles
01AMA11T02SL (M107047-01) Soil					Sampled: 07	/23/01 Rece	eived: 07/23/	01	
Benzene	ND	0.0676	mg/kg dry	50	!1B BTEX/M	Π 07/25/01	07/25/01	0107095	
Toluene	ND	0.271	"	"	"	"	"	"	
Ethylbenzene	ND	0.271	"	"	"	"	"	"	
Xylenes (total)	ND	0.541	"	"	"	"	"	"	
Naphthalene	ND	2.71	"	"	"	"	"	"	
Surr: 4-BFB	88.1 %	50-150							
01AMA11T03SL (M107047-02) Soil					Sampled: 07	/23/01 Rece	eived: 07/23/	01	
Benzene	ND	0.0425	mg/kg dry	50	!1B BTEX/MT	Π 07/25/01	07/25/01	0107095	
Toluene	ND	0.170	"	"	"	"	"	"	
Ethylbenzene	ND	0.170	"	"	"	"	"	"	
Xylenes (total)	ND	0.340	"	"	"	"	"	"	
Naphthalene	ND	1.70	"	"	"	"	"	"	
Surr: 4-BFB	87.7 %	50-150							
01AMA11T04SL (M107047-03) Soil					Sampled: 07	/23/01 Rece	eived: 07/23/	01	R-05
Benzene	ND	0.135	mg/kg dry	50	!1B BTEX/MT	ΓΙ 07/25/01	07/25/01	0107095	
Toluene	ND	0.540	"	"	"	"	"	"	
Ethylbenzene	ND	0.540	"	"	"	"	"	"	
Xylenes (total)	8.39	1.08	"	"	"	"	"	"	
Naphthalene	ND	5.40	"	"	"	"	"	"	
Surr: 4-BFB	95.8 %	50-150							
01AMA11T05SL (M107047-04) Soil					Sampled: 07	/23/01 Rece	eived: 07/23/	01	R-05
Benzene	ND	0.0970	mg/kg dry	50	!1B BTEX/MT		07/25/01	0107095	
Toluene	ND	0.388	"	"	"	"	"	"	
Ethylbenzene	ND	0.388	"	"	"	"	"	"	
Xylenes (total)	ND	0.776	"	"	"	"	"	"	
Naphthalene	ND	3.88	"	"	"	"	"	"	
Surr: 4-BFB	91.6 %	50-150							

North Creek Analytical - Mobile Lab



Reported:

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Bristol Environmental & Engineering Project: Amchitka 2000 W International Airport C#1 Project Number: 21090

Anchorage, AK 99502-1116 Project Manager: Anne Kranawetter 10/25/01 01:11

# BTEX,MTBE and Naphthalene per EPA Method 8021B North Creek Analytical - Mobile Lab

		iii Creen a		1.10	опе шио				
Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
						r			
01AMA11T06SL (M107047-05) Soil					Sampled: 07	/23/01 Rece	eived: 07/23/	01	
Benzene	ND	0.0341	mg/kg dry	50	!1B BTEX/M	Π 07/25/01	07/25/01	0107095	
Toluene	ND	0.136	"	"	"	"	"	"	
Ethylbenzene	ND	0.136	"	"	"	"	"	"	
Xylenes (total)	ND	0.273	"	"	"	"	"	"	
Naphthalene	ND	1.36	"	"	"	"	"	"	
Surr: 4-BFB	91.1 %	50-150							
01AMA11T07SL (M107047-06) Soil					Sampled: 07	/23/01 Rece	eived: 07/23/	01	R-05
Benzene	ND	0.140	mg/kg dry	50	!1B BTEX/M	Π 07/25/01	07/25/01	0107095	
Toluene	ND	0.560	"	"	"	"	"	"	
Ethylbenzene	ND	0.560	"	"	"	"	"	"	
Xylenes (total)	ND	1.12	"	"	"	"	"	"	
Naphthalene	ND	5.60	"	"	"	"	"	"	
Surr: 4-BFB	81.0 %	50-150							
01AMA11T08SL (M107047-07) Soil					Sampled: 07	/23/01 Rece	eived: 07/23/	01	
Benzene	ND	0.100	mg/kg dry	50	!1B BTEX/M	Π 07/25/01	07/25/01	0107095	
Toluene	ND	0.400	"	"	"	"	"	"	
Ethylbenzene	ND	0.400	"	"	"	"	"	"	
Xylenes (total)	ND	0.800	"	"	"	"	"	"	
Naphthalene	ND	4.00	"	"	"	"	"	"	
Surr: 4-BFB	100 %	50-150							

North Creek Analytical - Mobile Lab



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Bristol Environmental & Engineering 2000 W International Airport C#1

Project: Amchitka
Project Number: 21090

**Reported:** 10/25/01 01:11

Anchorage, AK 99502-1116

Project Manager: Anne Kranawetter

# Physical Parameters per APHA/ASTM/EPA Methods North Creek Analytical - Mobile Lab

Analyte	Result	Reporting Limit Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
01AMA11T02SL (M107047-01) Soil				Sampled: 07/2	23/01 Rece	ived: 07/23/0	01	
% Solids	91.2	0.0100% by Weigh	nt 1	Gravimetric	07/24/01	07/25/01	0107096	_
01AMA11T03SL (M107047-02) Soil				Sampled: 07/2	23/01 Rece	ived: 07/23/0	01	
% Solids	88.4	0.0100 % by Weigh	nt 1	Gravimetric	07/24/01	07/25/01	0107096	
01AMA11T04SL (M107047-03) Soil				Sampled: 07/2	23/01 Rece	ived: 07/23/0	01	
% Solids	89.6	0.0100 % by Weigh	nt 1	Gravimetric	07/24/01	07/25/01	0107096	
01AMA11T05SL (M107047-04) Soil				Sampled: 07/2	23/01 Rece	ived: 07/23/0	01	
% Solids	86.4	0.0100 % by Weigh	nt 1	Gravimetric	07/24/01	07/25/01	0107096	
01AMA11T06SL (M107047-05) Soil				Sampled: 07/2	23/01 Rece	ived: 07/23/0	01	
% Solids	89.2	0.0100% by Weigh	nt 1	Gravimetric	07/24/01	07/25/01	0107096	
01AMA11T07SL (M107047-06) Soil				Sampled: 07/2	23/01 Rece	ived: 07/23/0	01	
% Solids	83.5	0.0100 % by Weigh	nt 1	Gravimetric	07/24/01	07/25/01	0107096	
01AMA11T08SL (M107047-07) Soil				Sampled: 07/2	23/01 <u>R</u> ece	ived: 07/23/0	01	
% Solids	100	0.0100 % by Weigh	nt 1	Gravimetric	07/24/01	07/25/01	0107096	

North Creek Analytical - Mobile Lab



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50-150

50-150

Bristol Environmental & Engineering 2000 W International Airport C#1

Project: Amchitka
Project Number: 21090

**Reported:** 10/25/01 01:11

Anchorage, AK 99502-1116

Surr: 1-Chlorooctadecane

Surr: Triacontane

Project Manager: Anne Kranawetter

### Diesel Hydrocarbons (C10-C25) per AK102 - Quality Control

### North Creek Analytical - Mobile Lab

Analyte	Result	Reporting Limit Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0107090 - 3545 ASE									
Blank (0107090-BLK1)			Prepare	ed & Analy	zed: 07/2	4/01			
Diesel Range Organics	ND	150 mg/kg wet							
Surr: 1-Chlorooctadecane	22.2	"	23.7		93.7	50-150			
Surr: Triacontane	21.5	"	23.5		91.5	50-150			
LCS (0107090-BS1)			Prepare	ed & Analy	zed: 07/2	4/01			
Diesel Range Organics	1390	150 mg/kg wet	1250		111	75-125			
Surr: 1-Chlorooctadecane	27.1	"	23.7		114	50-150			
Surr: Triacontane	14.2	"	23.5		60.4	50-150			
LCS Dup (0107090-BSD1)			Prepare	ed & Analy	zed: 07/2	4/01			
Diesel Range Organics	1430	150 mg/kg wet	1250		114	75-125	2.84	20	
Surr: 1-Chlorooctadecane	31.1	"	23.7		131	50-150			
Surr: Triacontane	16.1	"	23.5		68.5	50-150			
<b>Matrix Spike (0107090-MS1)</b>	So	urce: M107047-02	Prepare	ed & Analy	zed: 07/2	4/01			
Diesel Range Organics	1870	150 mg/kg dry	1390	399	106	60-140			

26.3

26.1

28.1

19.0

North Creek	Analytical	- Mobile	Lab

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Bristol Environmental & Engineering 2000 W International Airport C#1

Project: Amchitka
Project Number: 21090

Reported:

Anchorage, AK 99502-1116

Project Manager: Anne Kranawetter

10/25/01 01:11

#### BTEX,MTBE and Naphthalene per EPA Method 8021B - Quality Control

### **North Creek Analytical - Mobile Lab**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 0107095 - MeOH Extraction	on						
Blank (0107095-BLK1)				Prepared &	Analyzed: 07/2	5/01	
Benzene	ND	0.0250 m	ıg/kg wet				
Toluene	ND	0.100	"				
Ethylbenzene	ND	0.100	"				
Xylenes (total)	ND	0.200	"				
Naphthalene	ND	1.00	"				
Surr: 4-BFB	2.37		"	2.50	94.8	50-150	
LCS (0107095-BS1)				Prepared &	Analyzed: 07/2	5/01	
Benzene	2.19	0.0250 m	g/kg wet	2.50	87.6	69-138	
Toluene	2.33	0.100	"	2.50	93.2	53-151	
Ethylbenzene	2.36	0.100	"	2.50	94.4	61-141	
Xylenes (total)	7.17	0.200	"	7.50	95.6	62-141	
Naphthalene	2.63	1.00	"	2.50	105	65-135	
Surr: 4-BFB	2.51		"	2.50	100	50-150	

North Creek Analytical - Mobile Lab



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Bristol Environmental & Engineering Project: Amchitka 2000 W International Airport C#1 Project Number: 21090

Project Manager: Anne Kranawetter 10/25/01 01:11

#### **Notes and Definitions**

D-16 Detected hydrocarbons in the diesel do not have a distinct diesel pattern and may be due to heavily weathered diesel.

R-05 Reporting limits raised due to dilution necessary for analysis.

DET Analyte DETECTED

Anchorage, AK 99502-1116

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis. MRLs are adjusted if %Solids are less than 50%.

wet Sample results reported on a wet weight basis (as received)

RPD Relative Percent Difference

North Creek Analytical - Mobile Lab

### **Items for Project Manager Review**

LabNumber	Analysis	Analyte	Exception
			Report recreated from: \\sisters\elmnt\Report\M107047 FINAL 10 25 01 0111.mdb
			Default Report (not modified)
M107047-02	AK102 (DRO)	Diesel Range Organics	D-16
M107047-03	8021B BTEX/MTBE/N		R-05
M107047-03	AK102 (DRO)	Diesel Range Organics	D-16
M107047-04	8021B BTEX/MTBE/N		R-05
M107047-04	AK102 (DRO)	Diesel Range Organics	D-16
M107047-06	8021B BTEX/MTBE/N		R-05
M107047-06	AK102 (DRO)	Diesel Range Organics	D-16